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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,621

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Erich Bott

BOTT-4

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EXAMINER

DESAI, NAISHADH N

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,621	Applicant(s) BOTT ET AL.	
	Examiner NAISHADH N. DESAI	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-48 is/are pending in the application.
- 4a) Of the above claim(s) 44-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/1/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, (apparatus claims 25-43) in the reply via telephone to examiner on 5/30/2008 is acknowledged. Applicant is advised to include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01 in response to office action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 5/1/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25-30, 32,34-37,41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Morreale (US 4039875).

4. As per independent claim 25:

An electric machine comprising (abstract):

a rotor (Col 2 l 55),
a stator having at least one winding system constructed of a plurality of coils,
each coil having wiring strands with ends (Fig 6), and
at least one circuit support disposed on an end face of the stator (Fig 2,22),
wherein the ends of the wiring strands are fixed by the at least one circuit support so as
to interconnect the plurality of coils in a predetermined wiring pattern (Figs 4 and 6).

5. As per dependent claim 26:

The electric machine of claim 25, wherein the stator comprises a plurality of teeth and
the winding system comprises toothed coils, and wherein each of the toothed coils
surrounds a corresponding tooth of the stator (Figs 1-6).

6. As per dependent claim 27:

The electric machine of claim 26, further comprising a support positioned on a
corresponding tooth, with each of the toothed coils being arranged on a corresponding
support (Figs 2 and 6).

7. As per dependent claim 28:

The electric machine of claim 25, wherein the stator comprises a sheet metal laminate,
and wherein the at least one circuit support is positioned on at least several of the
supports or on at least several toothed coils or on a sheet metal laminate of the stator
(Col 2 ll 50-52).

8. As per dependent claim 29:

The electric machine of claim 25, wherein the at least one circuit support further includes functional elements for attaching, contacting, and routing wires of current-carrying elements (abstract and Figs 4 and 5).

9. As per dependent claim 30:

The electric machine of claim 25, wherein the circuit support is formed as a single piece (Fig 5).

10. As per dependent claim 32:

The electric machine of claim 25, wherein the circuit support provides interconnectability in one or several wiring planes (abstract and Figs 4-6).

11. As per dependent claim 34:

The electric machine of claim 25, wherein the circuit support is produced as an injection molded plastic part.

12. As per dependent claim 35:

The electric machine of claim 25, wherein the circuit support is produced in MID (Molded Interconnected Device) technology or lead-frame technology.

In regards to claims 34 and 35, this limitation is a product-by process limitation. The method of forming / making the device is not germane to the issue of patentability of the

Art Unit: 2834

device itself. This does not structurally distinguish the claim over the prior art. Therefore the method of forming / making the device has not been given patentable weight.

13. As per dependent claim 36:

The electric machine of claim 25, wherein the circuit support is formed as a printed circuit board with conductor tracks or as a support element with channels (Figs 6-8).

14. As per dependent claim 37:

The electric machine of claim 36, and further comprising webs arranged between the conductor tracks of the printed circuit board or the channels for separating electrical potentials (Col 3 ll 7-14 and Fig 7-8).

15. As per dependent claim 41:

The electric machine of claim 36, wherein the channels of the circuit support are configured to accommodate different predetermined wiring patterns (Figs 5, 7 and 8).

16. As per dependent claim 42:

The electric machine of claim 27, wherein the support of the toothed coils includes at least one contact support for contacting the ends of the winding strands (Fig 5,26 and Col 3 ll 29-35).

17. As per dependent claim 43:

The electric machine of claim 42, wherein the at least one contact support is attached to the support of the toothed coils (Fig 5,26 and Col 3 ll 29-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morreale as applied to claim 25 above.

18. As per dependent claim 31:

The electric machine of claim 29, wherein the circuit support is formed of several pieces adapted for insertion of the functional elements.

Morreale discloses the claimed invention except for mentioning that the circuit support is formed of several pieces instead of an integrated unit. It would have been obvious to one having ordinary skills in the art at the time the invention was made to make the

integrated circuit support of several pieces instead, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

The motivation to do so would be that it would reduce complexity during assemblage and cost of parts. It would also aid maintenance and repair of parts by only replacing the malfunctioning pieces versus the entire integrated circuit support.

It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morreale as applied to claim 25 above, in view of Takano et al (US 6566779).

19. As per dependent claim 33:

The electric machine of claim 25, wherein the circuit support comprises one or more temperature sensors.

Morreale teaches the device as claimed above. Morreale does not teach the use of temperature sensors. Takano et al teaches the use of temperature sensors (Col 6 ll 13-16). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Morreale to use the temperature sensors as disclosed by Takano et al. It is well known in the art to use temperature sensors to monitor armature assemblies in order to avoid over heating and to ensure that the device is operating at optimal efficiency. The motivation to do so would be that it

Art Unit: 2834

would allow one to monitor and detect the temperature of the stator armature assembly (Col 6 ll 15-16 of Takano et al).

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morreale as applied to claim 25 above, in view of Gulbrandson et al (US 5717273).

20. As per dependent claim 38:

The electric machine of claim 25, wherein the circuit support includes a cover.

Morreale teaches the device as claimed above. Morreale does not teach the use of a cover. Gulbrandson et al teaches the use of a cover or end cap (Fig 1). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Morreale to use the cover as disclosed by Gulbrandson et al. The motivation to do so would be that it would provide mechanical support to the end turns of the coils and also insulation by axially, radially and diametrically separating end turns of coils within phases and end turns of coils of different phases (Col 2 ll 6-15 of Gulbrandson et al).

21. As per dependent claim 39:

The electric machine of claim 38, wherein the cover includes means for separating electrical potentials and means for attaching the winding strands (Col 2 ll 6-15 of Gulbrandson et al).

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morreale as applied to claim 25 above, in view of Gulbrandson et al (US 5717273) and further in view of Lin (US 6100614).

22. As per dependent claim 40:

The electric machine of claim 38, wherein the cover includes a strain relief for power supply lines.

Morreale teaches the device as claimed above. Morreale does not teach the use of a cover. Gulbrandson et al teaches the use of a cover or end cap (Fig 1). Gulbrandson et al do not teach the use of a strain relief element. Lin teaches the use of a strain relief clip (abstract and Fig 4). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Morreale and Gulbrandson et al to use the strain relief element as disclosed by Lin. The motivation to do so would be that it would relieve stress or strain on the wires (abstract of Lin).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Naishadh N Desai
Patent Examiner

/Darren Schuberg/
Supervisory Patent Examiner, Art Unit 2834